

VTU GUIDELINES FOR THE PREPARATION OF B.E. /B. Tech. PROJECT REPORTS

- **Paper and layout:**
 - Project reports should be typed neatly only on one side of the paper
 - With 1.5 or double line spacing
 - On a A4 size bond paper (210 x 297 mm).
 - The margins should be: Left - 1.25", Right - 1", Top and Bottom - 0.75".
 - The reports submitted to the department/guide(s) must be hard bounded, with a plastic covering.
 - Separator sheets, used if any, between chapters, should be of thin paper
- **The total number of reports to be prepared are:**
 - One copy to the department
 - One copy to the concerned guide(s)
 - Two copies to the sponsoring agency
 - One copy to the candidate.
- **Approval:**
 - Before taking the final printout, the approval of the concerned guide(s) is mandatory and suggested corrections, if any, must be incorporated.
 - For making copies dry tone Xerox is suggested
- **Every copy of the report must contain:**
 - Inner title page (White)
 - Outer title page with a plastic cover
 - Certificate in the format enclosed both from the college and the organization where the project is carried out.
 - An abstract (synopsis) not exceeding 100 words, indicating salient features of the work. (NB: four copies of the abstract are to be submitted to the Department on the date of submission separately)
- **The organization of the report should be as follows :**

- | | |
|--|--|
| <ul style="list-style-type: none"> ○ Inner title page ○ Certificate ○ Acknowledgments ○ Abstract or Synopsis ○ Table of Contents ○ List of table & figures (optional) ○ Nomenclature (optional) | <ul style="list-style-type: none"> • Usually numbered in Roman (lower case) |
|--|--|

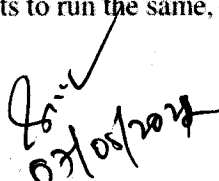
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 Dist. Ch. Dargam, K.G.F. - 563 120.
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- Devid, "Insulation design to combat pollution problem", Proc of IEEE, PAS, Vol 71, Aug 1981, pp 1901-1907.
- For websites –
 - Ram Ganeshan and Terry P. Harrison, "An Introduction to Supply Chain Management"
[Courtesy: http://lcm.csa.iisc.ernet.in/scm/supply_chain_intro.html]

(Note: All the students are informed to adapt APA Style of Reference – Appendix VII)

- **Important:**
 - The project report should be brief and include descriptions of work carried out by others only to the minimum extent necessary.
 - Verbatim reproduction of material available elsewhere should be strictly avoided.
 - Where short excerpts from published work are desired to be included, they should be within quotation marks appropriately referenced.
 - Proper attention is to be paid not only to the technical contents but also to the organization of the report and clarity of the expression.
 - Due care should be taken to avoid spelling and typing errors.
 - The student should note that report-write-up forms the important component in the overall evaluation of the project.
- **Hardware projects must include:**
 - The component layout, complete circuit with the component list containing the name of the component, numbers used, etc. and the main component data sheets as Appendix.
 - At the time of report submissions, the students must hand over a copy of these details to the project coordinator and see that they are entered in proper registers maintained in the department.
- **Software projects:**
 - Must include a virus free disc, containing the software developed by them along with the read me file.
 - Read me file should contain the details of the variables used, salient features of the software and procedure of using them: compiling procedure, details of the computer hardware/software requirements to run the same, etc.


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- **Certificate issued at the Organization where the project was carried out**
(On a separate sheet, If applicable)

NAME OF THE INDUSTRY / ORGANIZATION

Address with pin code

CERTIFICATE

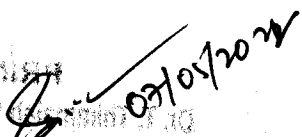
Certified that the project work entitled
carried out by Mr./Ms, USN..... a
bonafied student of in
partial fulfillment for the award of Bachelor of Engineering / Bachelor of Technology in
..... of the Visvesvaraya
Technological University, Belgaum during the year It is certified that, he/she
has completed the project satisfactorily

Name & Signature
of the Guide

Name & Signature
of the Head of organization

- **Colour of the Outer Cover / Front Page of UG Dissertation / Project Report**

Sl. No.	UG course	Color of the outer cover/front page of the report
1	Electronics & Communication (EC), Telecommunication, Bio-Medical, Medical Electronics, Electrical & Electronics and Instrumentation Technology (EC/TE/BM/ML/EE/IT)	PURPLE
2	Computer Science and Information Science and Engineering (CS/IS)	CREAM
3	Mechanical (ME), Printing Technology, Mining, Industrial Production, Industrial Engineering & Management, Manufacturing Science and Engineering and Automobile	SKY BLUE


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First Seminar	- 10
Second Seminar	- 20
Third Seminar	- 30
Paper Presentation	- 10
Balance Marks	- 30 exclusively by the Guide
Total	- 100

(Seminar marks will be allotted by 3 members' committee - Guide, Expert & HOD)

D. Writing of Final Report on Project Work:

In addition to VTU guidelines (shown above), following guidelines to be followed:

- The Title page and Inner page format is shown as **Appendix I and Appendix II**
- The Table of Content has to be in the tabular form and fonts size as shown in the **Appendix IV**

Certificate till Nomenclature	Font Size 12 Bold Title Case - Left Justified
Chapter number & name	Font Size 14 Capital and Bold- Left Justified
Sub chapter number & name	Font Size 12 Capital each word and Bold- Tab and Left Justified

- Project Body pages consist of

Header (Title of the Project)	Font Size 8	-Right Justified
Footer (Dept. and College)	Font Size 8	-Left Justified
Footer (Page Number)	Font Size 12	- Right Justified

E. Certificate (Appendix III)

Certificate should consist of individual name on the individual copy while the department, guide and sponsored copy consist of all four (team) names.

- F. Last page of the Project report should consist of brief bio-data of team members with individual identity size photo**

[Handwritten Signature]
Principal

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Copy to:

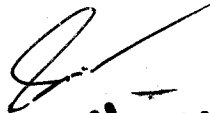
1. Dean Academic
2. All HODs to circulate among their faculty
3. All Project Coordinators to inform the students to strictly adhere to the
4. All Dept. Notice Boards

PROJECT PHASE – II			
[As per Choice Based Credit System (CBCS) scheme]			
SEMESTER –VIII(Mining Engineering)			
Laboratory Code	15MN85	IA Marks	20
Number of Lecture Hours/week		Exam Hours	03
Total Hours	42	Exam Marks	80
Credit = 06			
Course Objectives:			
1.To encourage the students to work in a group so that they will develop team and leadership qualities.			
2.To make the students to learn the preparation of a detailed project proposal, execution of the project and preparation and presentation of a final project report.			
3. To develop in the students multi skills.			
4. To develop in the students' communication skills.			
Guide Lines for Project Work:			
1. Project can be undertaken in-house or in an industry or in a research /service organization.			
2. Generally a Project batch consists of a minimum of 2 students and a maximum of 4 students.			
3. The Project Synopsis should be approved within a period of 15 days by a committee consisting of Head of the concerned department as a Chairman and two senior teachers of the department of which one may be the internal guide.			
4. The topic of the project may be in the same branch in which the student is studying, or it may be multidisciplinary. It may involve investigation/ analytical study / experimental work / fabrication / Statistical study / simulation etc. it may also be field oriented. The project should be preferably be taken in the latest trends in Engineering and Technology.			
5. There should be a project monitoring committee in each department consisting of Head of the Department and two senior teachers of the Department.			
6. Attendance for Project Work will be treated on par with any other practical / practical course.			
7. Laboratory slot of 4 hours / week as indicated in the scheme is to be provided by the department.			
8. The staff members will be shown a load of 3 hours (1½ units) for guiding, generally 4 batches of students.			

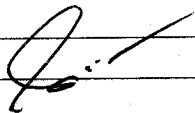


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B. E. MINING ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER - VI			
MINI PROJECT			
Course Code	18MNMP68	CIE Marks	40
Teaching Hours/Week (L:T:P)	(0:0:2)	SEE Marks	60
Credits	02	Exam Hours/Batch	03
Course objectives:			
<ul style="list-style-type: none"> • To support independent learning and innovative attitude. • To guide to select and utilize adequate information from varied resources upholding ethics. • To guide to organize the work in the appropriate manner and present information (acknowledging the sources) clearly. • To develop interactive, communication, organisation, time management, and presentation skills. • To impart flexibility and adaptability. • To inspire independent and team working. • To expand intellectual capacity, credibility, judgement, intuition. • To adhere to punctuality, setting and meeting deadlines. • To instil responsibilities to oneself and others. • To train students to present the topic of project work in a seminar without any fear, face audience confidently, enhance communication skill, involve in group discussion to present and exchange ideas. 			
Mini-Project: Each student of the project batch shall involve in carrying out the project work jointly in constant consultation with internal guide, co-guide, and external guide and prepare the project report as per the norms avoiding plagiarism.			
Course outcomes: At the end of the course the student will be able to:			
<ul style="list-style-type: none"> • Present the mini-project and be able to defend it. • Make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task. • Habituated to critical thinking and use problem solving skills. • Communicate effectively and to present ideas clearly and coherently in both the written and oral forms. • Work in a team to achieve common goal. • Learn on their own, reflect on their learning and take appropriate actions to improve it. ■ 			
CIE procedure for Mini - Project:			
The CIE marks awarded for Mini - Project, shall be based on the evaluation of Mini - Project Report, Project Presentation skill and Question and Answer session in the ratio 50:25:25. The marks awarded for Mini - Project report shall be the same for all the batch mates. ■			
Semester End Examination			
SEE marks for the mini-project shall be awarded based on the evaluation of Mini-Project Report, Presentation skill and Question and Answer session in the ratio 50:25:25 by the examiners appointed by the University. ■			

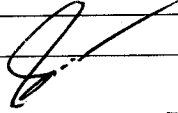

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B. E. MINING ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER -VII			
PROJECT WORK PHASE - 1			
Course Code	18MNP78	CIE Marks	100
Teaching Hours/Week (L:T:P)	(0:0:2)	SEE Marks	--
Credits	01	Exam Hours/Batch	--
Course objectives:			
<ul style="list-style-type: none"> • To support independent learning and innovative attitude. • To guide to select and utilize adequate information from varied resources upholding ethics. • To guide to organize the work in the appropriate manner and present information (acknowledging the sources) clearly. • To develop interactive, communication, organisation, time management, and presentation skills. • To impart flexibility and adaptability. • To inspire independent and team working. • To expand intellectual capacity, credibility, judgement, intuition. • To adhere to punctuality, setting and meeting deadlines. • To instil responsibilities to oneself and others. • To train students to present the topic of project work in a seminar without any fear, face audience confidently, enhance communication skill, involve in group discussion to present and exchange ideas. 			
Project Work Phase - II: Each student of the project batch shall involve in carrying out the project work jointly in constant consultation with internal guide, co-guide, and external guide and prepare the project report as per the norms avoiding plagiarism.			
Course outcomes: At the end of the course the student will be able to:			
<ul style="list-style-type: none"> • Present the project and be able to defend it. • Make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task. • Habituated to critical thinking and use problem solving skills. • Communicate effectively and to present ideas clearly and coherently in both the written and oral forms. • Work in a team to achieve common goal. • Learn on their own, reflect on their learning and take appropriate actions to improve it. ■ 			
CIE procedure for Project Work Phase - 1:			
<p>(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.</p> <p>(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates. ■</p>			



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B. E. MINING ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER -VIII			
PROJECT WORK PHASE -II			
Course Code	18MNP83	CIE Marks	40
Contact Hours/Week	0:0:2	SEE Marks	60
Credits	08	Exam Hours/Batch	03
Course objectives:			
<ul style="list-style-type: none"> • To support independent learning and innovative attitude. • To guide to select and utilize adequate information from varied resources maintaining ethics. • To guide to organize the work in the appropriate manner and present information (acknowledging the sources) clearly. • To develop interactive, communication, organisation, time management, and presentation skills. • To impart flexibility and adaptability. • To inspire independent and team working. • To expand intellectual capacity, credibility, judgement, intuition. • To adhere to punctuality, setting and meeting deadlines. • To instil responsibilities to oneself and others. • To train students to present the topic of project work in a seminar without any fear, face audience confidently, enhance communication skill, involve in group discussion to present and exchange ideas. 			
Project Work Phase - II: Each student of the project batch shall involve in carrying out the project work jointly in constant consultation with internal guide, co-guide, and external guide and prepare the project report as per the norms avoiding plagiarism.			
Course outcomes: At the end of the course the student will be able to:			
<ul style="list-style-type: none"> • Present the project and be able to defend it. • Make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task. • Habituated to critical thinking and use problem solving skills • Communicate effectively and to present ideas clearly and coherently in both the written and oral forms. • Work in a team to achieve common goal. • Learn on their own, reflect on their learning and take appropriate actions to improve it. ■ 			
CIE procedure for Project Work Phase - 2:			
(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase - 2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.			
(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase - 2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates. ■			
Semester End Examination			
SEE marks for the project (60 marks) shall be awarded (based on the quality of report and presentation skill, participation in the question and answer session) as per the University norms by the examiners appointed VTU. ■			


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B. E. MINING ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER -VIII			
TECHNICAL SEMINAR			
Course Code	18MNS84	CIE Marks	100
Contact Hours/Week	0:0:2	SEE Marks	--
Credits	01	Exam Hours	--
Course objectives:			
<p>The objective of the seminar is to inculcate self-learning, face audience confidently, enhance communication skill, involve in group discussion and present and exchange ideas.</p> <p>Each student, under the guidance of a Faculty, shall choose, preferably, a recent topic of his/her interest relevant to the Course of Specialization.</p> <ul style="list-style-type: none"> • Carryout literature survey, organize the seminar content in a systematic manner. • Prepare the report with own sentences, avoiding cut and paste act. • Type the matter to acquaint with the use of Micro-soft equation and drawing tools or any such facilities. • Present the seminar topic orally and/or through power point slides. • Answer the queries and involve in debate/discussion. • Submit typed report with a list of references. <p>The participants shall take part in discussion to foster friendly and stimulating environment in which the</p>			
Course outcomes: At the end of the course the student will be able to:			
<ul style="list-style-type: none"> • Attain, use and develop knowledge in the field of engineering and other disciplines through independent learning and collaborative study. • Identify, understand and discuss current, real-time issues. • Improve oral and written communication skills. • Explore an appreciation of the self in relation to its larger diverse social and academic contexts. • Apply principles of ethics and respect in interaction with others. ■ 			
Evaluation Procedure:			
<p>The CIE marks for the seminar shall be awarded (based on the relevance of the topic, presentation skill, participation in the question and answer session and quality of report) by the committee constituted for the purpose by the Head of the Department. The committee shall consist of three teachers from the department with the senior most acting as the Chairman.</p> <p>Marks distribution for CIE of the course:</p> <p>Seminar Report:50 marks</p> <p>Presentation skill:25 marks</p> <p>Question and Answer: 25 marks. ■</p>			
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016


B.E. CIVIL ENGINEERING

VII SEMESTER

Sl. No.	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15CV71	Municipal and Industrial Waste Water Engineering	04		03	20	80	100	4
2	15CV72	Design of RCC and Steel Structures	04		03	20	80	100	4
3	15CV73	Hydrology and Irrigation Engineering	04		03	20	80	100	4
4	15CV74X	Professional Elective 3	03		03	20	80	100	3
5	15CV75X	Professional Elective 4	03		03	20	80	100	3
6	15CVL76	Environmental Engineering Laboratory		1I+2P	03	20	80	100	2
7	15CVL77	Computer Aided Detailing of Structures		1I+2D	03	20	80	100	2
8	15CVP78	Project Phase I +Project Seminar		3		100		100	2
TOTAL			18	9	21	240	560	800	24

Professional Elective 3		Professional Elective 4	
15CV741	Design of Bridges	15CV751	Urban Transportation and Planning
15CV742	Ground Water & Hydraulics	15CV752	Prefabricated Structures
15CV743	Design Concept of Building Services	15CV753	Rehabilitation and Retrofitting of Structures
15CV744	Structural Dynamics	15CV754	Reinforced Earth Structures

1. Project Phase-I + Seminar: Literature Survey, Problem Identification, objectives and Methodology, Submission of synopsis and seminar



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CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016
B.E. CIVIL ENGINEERING

VIII SEMESTER

Sl. No.	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15CV81	Quantity Surveying and Contracts Management	4	-	3	20	80	100	4
2	15CV82	Design of Pre Stressed Concrete Elements	4	-	3	20	80	100	4
3	15CV83X	Professional Elective 5	3	-	3	20	80	100	3
4	15CV84	Internship/Professional Practice	Industry Oriented		3	50	50	100	2
5	15CVP85	Project Work	-	6	3	100	100	200	6
6	15CVS86	Seminar on current trends in Engineering and Technology	-	4	-	100	-	100	1
TOTAL			11	10	15	310	390	700	20

Professional Elective 5	
15CV831	Earthquake Engineering
15CV832	Hydraulic Structures
15CV833	Pavement Design
15CV834	Advanced Foundation Design


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018

Choice Based Credit System (CBCS)

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM

CHOICE BASED CREDIT SYSTEM (CBCS)

SCHEME OF TEACHING AND EXAMINATION 2017-2018

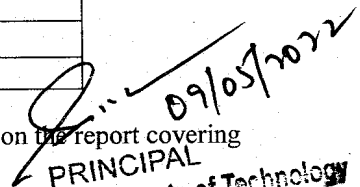
B.E: CIVIL ENGINEERING

VII SEMESTER

Sl. No.	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CV71	Municipal and Industrial Waste Water Engineering	Civil Engg.	04		03	60	40	100	4
2	17CV72	Design of RCC and Steel Structures	Civil Engg.	04		03	60	40	100	4
3	17CV73	Hydrology and Irrigation Engineering	Civil Engg.	04		03	60	40	100	4
4	17CV74X	Professional Elective-3	Civil Engg.	03		03	60	40	100	3
5	17CV75X	Professional Elective-4	Civil Engg.	03		03	60	40	100	3
6	17CVL76	Environmental Engineering Laboratory	Civil Engg.	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17CVL77	Computer Aided Detailing of Structures	Civil Engg.	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CVP78	Project Work Phase-I + Project work Seminar	Civil Engg.		03	--	--	100	100	2
TOTAL				Theory:18 hours Practical and Project: 09 hours		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17CV741	Design of Bridges	17CV751	Urban Transportation and Planning
17CV742	Ground Water & Hydraulics	17CV752	Prefabricated Structures
17CV743	Design Concept of Building Services	17CV753	Rehabilitation and Retrofitting of Structures
17CV744	Structural Dynamics	17CV754	Reinforced Earth Structures

1. **Project Phase – I and Project Seminar:** Comprises of Literature Survey, Problem identification, Objectives and Methodology. CIE marks shall be based on the report covering Literature Survey, Problem identification, Objectives and Methodology and Seminar presentation skill.


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018

Choice Based Credit System (CBCS)

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM

CHOICE BASED CREDIT SYSTEM (CBCS)

SCHEME OF TEACHING AND EXAMINATION 2017-2018

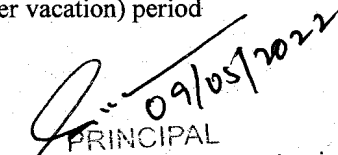
B.E: CIVIL ENGINEERING

VIII SEMESTER

Sl. No.	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination			Credits	
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks		Total Marks
1	17CV81	Quantity Surveying and Contracts Management	Civil Engg.	4	-	3	60	40	100	4
2	17CV82	Design of Pre Stressed Concrete Elements	Civil Engg.	4	-	3	60	40	100	4
3	17CV83X	Professional Elective-5	Civil Engg.	3	-	3	60	40	100	3
4	17CV84	Internship/ Professional Practice	Civil Engg.	Industry Oriented		3	50	50	100	2
5	17CVP85	Project Work-II	Civil Engg.	-	6	3	100	100	200	6
6	17CVS86	Seminar on current trends in Engineering and Technology	Civil Engg.	-	4	-	-	100	100	1
TOTAL				Theory: 11 hours Project and Seminar: 10 hours		15	330	370	700	20

Professional Elective -5	
17CV831	Earthquake Engineering
17CV832	Hydraulic Structures
17CV833	Pavement Design
17CV834	Advanced Foundation Design

1. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period



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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18CV61	Design of Steel Structural Elements	Civil Engg.	3	2	--	03	40	60	100	4
2	PCC	18CV62	Applied Geotechnical Engineering	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV63	Hydrology and Irrigation Engineering	Civil Engg.	3	2	--	03	40	60	100	4
4	PEC	18CV64X	Professional Elective -1	Civil Engg.	3	--	--	03	40	60	100	3
5	OEC	18CV65X	Open Elective -A	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CVL66	Software Application Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
7	PCC	18CVL67	Environmental Engineering Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
8	EP	18CVEP68	Extensive Survey project	Civil Engg.	--	2	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	12	06	24	320	480	800	24
Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.												
Professional Elective -1												
Course code under 18CV64X												
18CV641		Matrix Method of Structural Analysis										
18CV642		Solid Waste Management										
18CV643		Alternate Building Materials										
18CV644		Ground Improvement Techniques										
18CV645		Railway, Harbours, Tunnelling & Airports										
Open Elective -A												
Course code under 18CV65X												
18CV651		Remote Sensing & GIS										
18CV652		Traffic Engineering										
18CV653		Occupational Health & Safety										


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

VII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18CV71	Quality Surveying and Contract Management	Civil Engg.	3	--	--	03	40	60	100	3
2	PCC	18CV72	Design of RCC and Steel Structures	Civil Engg.	3	--	--	03	40	60	100	3
3	PEC	18CV73X	Professional Elective - 2	Civil Engg.	3	--	--	03	40	60	100	3
4	PEC	18CV74X	Professional Elective - 3	Civil Engg.	3	--	--	03	40	60	100	3
5	OEC	18CV75X	Open Elective -B	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CVL76	Computer Aided Detailing of Structures	Civil Engg.	--	2	2	03	40	60	100	2
7	PCC	18CVL77	Geotechnical Engineering Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
8	Project	18CVP78	Project Work Phase - 1		--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					15	04	06	21	380	420	00	20
Note: PCC: Professional core, PEC: Professional Elective.												
Professional Elective - 2												
Course code under 18CV73X		Course Title										
18CV731		Theory of Elasticity										
18CV732		Air Pollution and Control										
18CV733		Pavement Materials & Construction										
18CV734		Ground Water Hydraulics										
18CV735		Masonry Structures										
Professional Electives - 3												
Course code under 18CV74X		Course Title										
18CV741		Earthquake Engineering										
18CV742		Design Concepts of Building Services										
18CV743		Reinforced Earth Structures										

[Signature]
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

VIII SEMESTER

Sl. No	Course and Course code	Course Title	Teaching Department	Teaching Hours /Week			Examination				
				Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
				L	T	P					
1	PCC 18CV81	Design of Pre-stressed Concrete	Civil Engg.	3	--	--	03	40	60	100	3
2	PEC 18CV82X	Professional Elective - 4	Civil Engg.	3	--	--	03	40	60	100	3
3	Project 18CV83	Project Work Phase - 2	Civil Engg.	--	--	16	03	40	60	100	3
4	Seminar 18CV84	Technical Seminar	Civil Engg.	--	--	2	03	100	--	100	1
5	Internship 18CV85	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL				06	--	18	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18CV82X	Course Title
18CV821	Bridge Engineering
18CV822	Prefabricated Structures
18CV823	Advanced Foundation Engineering
18CV824	Rehabilitation & Retrofitting
18CV825	Pavement Design

Project Work

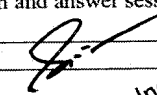
CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. Mechanical Engineering

VII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ME71	Energy Engineering	3	2	0	03	80	20	100	4
2	15ME72	Fluid Power Systems	4	0	0	03	80	20	100	4
3	15ME73	Control Engineering	3	2	0	03	80	20	100	4
4	15ME74X	Professional Elective - III	3	0	0	03	80	20	100	3
5	15ME75X	Professional Elective-IV	3	0	0	03	80	20	100	3
6	15MEL76	Design Lab	1	0	2	03	80	20	100	2
7	15MEL77	CIM Lab	1	0	2	03	80	20	100	2
8	15MEP78	Project Phase – I						100	100	2
TOTAL			18	4	04		560	240	800	24

Professional Elective-III		Professional Elective-IV	
15ME741	Design of Thermal Equipments	15ME751	Automotive Electronics
15ME742	Tribology	15ME752	Fracture Mechanics
15ME743	Financial Management	15ME753	Mechatronics
15ME744	Design for Manufacturing	15ME754	Advanced Vibrations
15ME745	Smart Materials & MEMS		

- 1. Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Professional Elective:** Elective relevant to chosen specialization/ branch

(Signature)
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016


B.E. Mechanical Engineering

VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ME81	Operations Research	3	2	0	03	80	20	100	4
2	15ME82	Additive Manufacturing	4	0	0	03	80	20	100	4
3	15ME83X	Professional Elective - V	3	0	0	03	80	20	100	3
4	15ME84	Internship / Professional Practice	Industry Oriented			03	50	50	100	2
5	15ME85	Project Phase – II	0	6	0	03	100	100	200	6
6	15MES86	Seminar	0	4	0	-	0	100	100	1
TOTAL			10	12	-		390	310	700	20

Professional Elective-V	
15ME831	Cryogenics
15ME832	Experimental Stress Analysis
15ME833	Theory of Plasticity
15ME834	Green Manufacturing
15ME835	Product life cycle management

- 1. Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. Internship / Professional Practice:** To be carried out between 6th & 7th semester vacation or 7th & 8th semester vacation.


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CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-18
B.E. Mechanical Engineering

VII semester

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination			Credits	
			Lecture	Tutorial	Practical	Duration (Hours)	SEE Marks	CIE Marks		Total Marks
1	17ME71	Energy Engineering	3	2	0	03	60	40	100	4
2	17ME72	Fluid Power Systems	4	0	0	03	60	40	100	4
3	17ME73	Control Engineering	3	2	0	03	60	40	100	4
4	17ME74X	Professional Elective - III	3	0	0	03	60	40	100	3
5	17ME75X	Professional Elective-IV	3	0	0	03	60	40	100	3
6	17MEL76	Design Lab	1	0	2	03	60	40	100	2
7	17MEL77	CIM Lab	1	0	2	03	60	40	100	2
8	17MEP78	Project Phase - I					60	40	100	2
TOTAL			18	4	04		480	320	60	24

Professional Elective-III		Professional Elective-IV	
17ME741	Design of Thermal Equipment's	17ME751	Automotive Electronics
17ME742	Tribology	17ME752	Fracture Mechanics
17ME743	Financial Management	17ME753	Mechatronics
17ME744	Design for Manufacturing	17ME754	Advanced Vibrations
17ME745	Smart Materials & MEMS		

- Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of the programme in a said discipline of study.
- Professional Elective:** Elective relevant to chosen specialization/ branch



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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-18
B.E. Mechanical Engineering

VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Duration (Hours)	Examination			Credits
			Lecture	Tutorial	Practical		SEE Marks	CIE Marks	Total Marks	
1	17ME81	Operations Research	3	2	0	03	60	40	100	4
2	17ME82	Additive Manufacturing	4	0	0	03	60	40	100	4
3	17ME83X	Professional Elective - V	3	0	0	03	60	40	100	3
4	17ME84	Internship / Professional Practice	Industry Oriented			03	60	40	60	40
5	17ME85	Project Phase – II		6		03	60	40	200	6
6	17ME86	Seminar		4			60	40	100	1
TOTAL			10	12	-		480	320	700	20
Professional Elective-V										
15ME831	Cryogenics									
15ME832	Experimental Stress Analysis									
15ME833	Theory of Plasticity									
15ME834	Green Manufacturing									
15ME835	Product life cycle management									

- 1. Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. Internship / Professional Practice:** To be carried out between 6th & 7th semester vacation or 7th & 8th semester vacation


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18ME61	Finite Element Methods		3	2	--	03	40	60	100	4
2	PCC	18ME62	Design of Machine Elements II		3	2	--	03	40	60	100	4
3	PCC	18ME63	Heat Transfer		3	2	--	03	40	60	100	4
4	PEC	18ME64X	Professional Elective -I		3	--	--	03	40	60	100	3
5	OEC	18ME65X	Open Elective -A		3	--	--	03	40	60	100	3
6	PCC	18MEL66	Computer Aided Modelling and Analysis Lab		--	2	2	03	40	60	100	2
7	PCC	18MEL67	Heat Transfer Lab		--	2	2	03	40	60	100	2
8	MP	18MEMP68	Mini-project		--	--	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective - I

Course code under 18XX64X	Course Title	Course code under 18XX64X	Course Title
18ME641	Non-Traditional Machining	18ME644	Vibrations and Noise Engineering
18ME642	Refrigeration and Air conditioning	18ME645	Composite Materials Technology
18ME643	Theory of Elasticity	18ME646	Entrepreneurship Development

Open Elective -A

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini- project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college. The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Mini-project:

(i) Single discipline: Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) Interdisciplinary: Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of V and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18ME71	Control Engineering		3	--	--	03	40	60	100	3
2	PCC	18ME72	Computer Aided Design and Manufacturing		3	--	--	03	40	60	100	3
3	PEC	18ME73X	Professional Elective - 2		3	--	--	03	40	60	100	3
4	PEC	18ME74X	Professional Elective - 3		3	--	--	03	40	60	100	3
5	OEC	18ME75X	Open Elective -B		3	--	--	03	40	60	100	3
6	PCC	18MEL76	Computer Integrated Manufacturing Lab		--	2	2	03	40	60	100	2
	PCC	18MEL77	Design Lab		--	2	2	03	40	60	100	2
7	Project	18MEP78	Project Work Phase - 1		--	--	2	--	100	--	100	1
8	Internship		Internship		(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)							
TOTAL					15	04	06	18	340	360	700	20

Professional Elective - 2

Course code under 18XX73X	Course Title	Course code under 18XX73X	Course Title
18ME731	Design for Manufacture	18ME734	Total Quality Management
18ME732	Automation and Robotics	18ME735	Operations Research
18ME733	Computational Fluid Dynamics		

Professional Electives - 3

Course code under 18XX74X	Course Title	Course code under 18XX74X	Course Title
18ME741	Additive Manufacturing	18ME744	Mechatronics
18ME742	Emerging Sustainable Building Cooling Technologies	18ME745	Project Management
18ME743	Theory of Plasticity		

Open Elective -B

Students can select any one of the open electives offered by other Departments expect those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).

Selection of an open elective shall not be allowed if,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

CIE procedure for Project Work Phase - 1:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work phase -1, shall be based on the evaluation of the project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the Project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and/or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the Internship requirements.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VIII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18ME81	Energy Engineering		3	--	--	03	40	60	100	3
2	PEC	18ME82X	Professional Elective - 4		3	--	--	03	40	60	100	3
3	Project	18MEP83	Project Work Phase - 2		--	--	2	03	40	60	100	8
4	Seminar	18MES84	Technical Seminar		--	--	2	03	100	--	100	1
5	Internship	18XX185	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	04	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18XX82X	Course Title	Course code under 18XX82X	Course Title
18ME821	CNC Machine Tools	18ME824	Automobile Engineering
18ME822	Tribology	18ME825	Tool Design
18ME823	Non-Destructive Testing and Evaluation	18ME826	Fracture Mechanics

Project Work

CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.


SEE for Project Work Phase - 2:

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.


Internship: Those, who have not pursued /completed the internship, shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card. Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).


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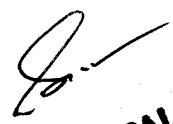
VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
SCHEME OF TEACHING AND EXAMINATION - 2015-16
B.E. ELECTRICAL AND ELECTRONICS ENGINEERING
CHOICE BASED CREDIT SYSTEM (CBCS)

VII SEMESTER												
Sl. No	Course Code	Subject (Course)	Title	Teaching Department	Teaching Hours/Week		Examination				Credits	
					Theory	Practical/ Drawing	Duration in hours	I.A. Marks	Theory/ Practical Marks	Total Marks		
1	15EE71	Core Subject	Power System Analysis - 2	EEE	04	--	03	20	80	100	4	
2	15EE72	Core Subject	Power System Protection	EEE	04	--	03	20	80	100	4	
3	15EE73	Core Subject	High Voltage Engineering	EEE	04	--	03	20	80	100	4	
4	15EE74X	Professional Elective	Professional Elective – III	EEE	04	--	03	20	80	100	3	
5	15EE75Y	Professional Elective	Professional Elective – IV	EEE	04	--	03	20	80	100	3	
6	15EEL76	Laboratory	Power system Simulation Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2	
7	15EEL77	Laboratory	Rely and High Voltage Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2	
8	15EEP78	Project Phase – I + Seminar		EEE	--	--	--	100	--	100	2	
TOTAL					Theory:24 hours Practical: 06 hours		21	240	560	800	24	
Elective												
Professional Elective – III						Professional Elective – IV						
Courses under Code 15EE74X		Title				Courses under Code 15EE75Y		Title				
15EE741		Advanced Control Systems				15EE751		FACTs and HVDC Transmission				
15EE742		Utilization of Electrical Power				15EE752		Testing and Commissioning of Power System Apparatus				
15EE743		Carbon Capture and Storage				15EE753		Spacecraft Power Technologies				
15EE744		Power System Planning				15EE754		Industrial Heating				
<p>1. Core subject: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.</p> <p>2. Professional Elective: Elective relevant to chosen specialization/ branch.</p> <p>3. Project Phase –I + Seminar: Literature Survey, Problem Identification, objectives and Methodology. Submission of synopsis and seminar.</p> <p>4. Internship / Professional Practice: To be carried between the VI and VII semester vacation or VII and VIII semester vacation period.</p>												


PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaam, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
 SCHEME OF TEACHING AND EXAMINATION - 2015-16
B.E. ELECTRICAL AND ELECTRONICS ENGINEERING
CHOICE BASED CREDIT SYSTEM (CBCS)

VIII SEMESTER												
Sl. No	Course Code	Subject (Course)	Title	Teaching Department	Teaching Hours /Week		Examination			Credits		
					Theory	Practical/ Drawing	Duration in hours	L.A. Marks	Theory/ Practical Marks		Total Marks	
1	15EE81	Core Subject	Power System Operation and Control	EEE	04	--	03	20	80	100	4	
2	15EE82	Core Subject	Industrial Drives and Applications	EEE	04	--	03	20	80	100	4	
3	15EE83X	Professional Elective	Professional Elective – V	EEE	03	--	03	20	80	100	3	
4	15EE84	Core Subject	Internship / Professional Practice	EEE	Industry Oriented		03	50	50	100	2	
5	15EEP85	Core Subject	Project Work Phase -II	EEE	--	06	03	100	100	200	6	
6	15EES86	Core Subject	Seminar	EEE	--	04	--	100	--	100	1	
TOTAL					Theory: 11 hours Practical: 10 hours		15	310	390	700	20	
Professional Elective – V												
Courses under Code 15EE83X		Title										
15EE831		Smart Grid										
15EE832		Operation and Maintenance of Solar Electric Systems										
15EE833		Integration of Distributed Generation										
15EE834		Power System in Emergencies										
<p>1. Core subject: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.</p> <p>2. Professional Elective: Elective relevant to chosen specialization/ branch.</p> <p>3. Internship / Professional Practice: To be carried between the VI and VII semester vacation or VII and VIII semester vacation period.</p>												


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)

B.E: ELECTRICAL AND ELECTRONICS ENGINEERING
CHOICE BASED CREDIT SYSTEM (CBCS)

VII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EE71	Power System Analysis – 2(Core)	EEE	04		03	60	40	100	4
2	17EE72	Power System Protection(Core)	EEE	04		03	60	40	100	4
3	17EE73	High Voltage Engineering(Core)	EEE	04		03	60	40	100	4
4	17EE74X	Professional Elective – III	EEE	03		03	60	40	100	3
5	17EE75Y	Professional Elective – IV	EEE	03		03	60	40	100	3
6	17EEL76	Power system Simulation Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17EEL77	Rely and High Voltage Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17EEP78	Project Work Phase-I + Project work Seminar	EEE		03			100	100	2
TOTAL				Theory:18 hours Practical and Project: 09 hours		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17EE741	Advanced Control Systems	17EE751	FACTs and HVDC Transmission
17EE742	Utilization of Electrical Power	17EE752	Testing and Commissioning of Power System Apparatus
17EE743	Carbon Capture and Storage	17EE753	Spacecraft Power Technologies
17EE744	Power System Planning	17EE754	Industrial Heating


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1. Project Phase – I and Project Seminar: Comprises of Literature Survey, Problem identification, Objectives and Methodology. CIE marks shall be based on the report covering Literature Survey, Problem identification, Objectives and Methodology and Seminar presentation skill.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)


B.E: ELECTRICAL AND ELECTRONICS ENGINEERING
CHOICE BASED CREDIT SYSTEM (CBCS)

VIII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination			Credits	
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks		Total Marks
1	17EE81	Power System Operation and Control (Core)	EEE	4	-	3	60	40	100	4
2	17EE82	Industrial Drives and Applications(Core)	EEE	4	-	3	60	40	100	4
3	17EE83X	Professional Elective-5	EEE	3	-	3	60	40	100	3
4	17EE84	Internship/ Professional Practice (Core)	EEE	Industry Oriented		3	50	50	100	2
5	17EEP85	Project Work-II(Core)	EEE		6	3	100	100	200	6
6	17EES86	Seminar (Core)	EEE		4			100	100	1
TOTAL				Theory: 11 hours Project and Seminar: 10 hours		15	330	370	700	20

Professional Elective -5	
17EE831	Smart Grid
17EE832	Operation and Maintenance of Solar Electric Systems
17EE833	Integration of Distributed Generation
17EE834	Power System in Emergencies

1. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period.


PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Bangalore, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18 EE61	Control Systems	EEE	3	2	--	03	40	60	100	4
2	PCC	18 EE62	Power System Analysis – 1	EEE	3	2	--	03	40	60	100	4
3	PCC	18 EE63	Digital Signal Processing	EEE	3	2	--	03	40	60	100	4
4	PEC	18 EE64X	Professional Elective -1	EEE	3	--	--	03	40	60	100	3
5	OE	18 EE65X	Open Elective -A	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EEL66	Control System Laboratory	EEE	--	2	2	03	40	60	100	2
7	PCC	18 EEL67	Digital Signal Processing Laboratory	EEE	--	2	2	03	40	60	100	2
8	MP	18 EEMP68	Mini-project		--	--	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective -1

Course code under 18XX64X	Course Title
18 EE641	Introduction to Nuclear Power
18 EE642	Electrical Engineering Materials
18 EE643	Computer Aided Electrical Drawing
18 EE644	Embedded System
18 EE645	Object Oriented Programming using C++
18EE646	Electric Vehicles Technologies
18EE647	Sensors and Transducers

Open Elective -A

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini-project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Mini-project:

(i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: All the students admitted to III year of BE/B.Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

09/05/2020
PRINCIPAL

Dr. T. Thirumalaiah Institute of Technology

Ooragam KGE - 563 120

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18 EE71	Power System Analysis – 2	EEE	2	2	--	03	40	60	100	3
2	PCC	18 EE72	Power System Protection	EEE	3	--	--	03	40	60	100	3
3	PEC	18 EE73X	Professional Elective - 2	EEE	3	--	--	03	40	60	100	3
4	PEC	18 EE74X	Professional Elective - 3	EEE	3	--	--	03	40	60	100	3
5	OEC	18 EE75X	Open Elective -B	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EEL76	PSS laboratory	EEE	--	2	2	03	40	60	100	2
7	PCC	18 EEL77	Relay & HV lab	EEE	--	2	2	03	40	60	100	2
8	Project	18 EEP78	Project Work Phase - 1	EEE	--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					14	06	06	21	380	420	800	20

Note: PCC: Professional core, PEC: Professional Elective.

Professional Elective - 2

Course code under 18XX73X	Course Title
18EE731	Solar and Wind Energy
18EE732	Micro and Nano Scale Sensors and Transducers
18 EE733	Integrated of Distribution Generation.
18 EE734	Advanced Control Systems
18 EE735	Reactive Power Control in Electric Power Systems

Professional Electives - 3

Course code under 18 EE74X	Course Title
18 EE741	Industrial Drives and Application
18 EE742	Utilization of Electrical Power
18 EE743	AI Techniques for Electrical and hybrid Electric Vehicles
18 EE744	Smart Grid
18 EE745	Artificial Neural Network With Applications to Power Systems

Open Elective -B

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

09/05/2022
Principal
 Dr. T. Thirumalaiah Institute of Technology
 Oorgaam, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VIII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18EE81	Power System Operation and Control	EEE	3	--	--	03	40	60	100	3
2	PEC	18EE82X	Professional Elective - 4	EEE	3	--	--	03	40	60	100	3
3	Project	18EEP83	Project Work Phase - 2		--	--	2	03	40	60	100	8
4	Seminar	18EES84	Technical Seminar		--	--	2	03	100	--	100	1
5	Internship	18EEI85	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	04	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18XX82X	Course Title
18EE821	FACTs and HVDC Transmission
18EE822	Electrical Estimation and Costing
18EE823	Big Data Analytics in Power Systems
18EE824	Power System Planning
18EE825	Electrical Power Quality

Project Work**CIE procedure for Project Work Phase - 2:**

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: Those, who have not pursued /completed the internship, shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card. Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).

09/05/2022
PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Oorgaam, K.G.F. - 563 120.


**SCHEME OF TEACHING AND EXAMINATION
B.E.: Electronics & Communication Engineering**

VII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours / Week		Examination				15EC
			Theory	Practical/Drawing	Duration	I.A. Marks	Theory/Practical Marks	Total Marks	
1	15EC71	Microwave and Antennas	04		03	20	80	100	4
2	15EC72	Digital Image Processing	04		03	20	80	100	4
3	15EC73	Power Electronics	04		03	20	80	100	4
4	15XX74X	Professional Elective-3	03		03	20	80	100	3
5	15EC75X	Professional Elective-4	03		03	20	80	100	3
6	15ECL76	Advanced Communication Lab		1I+2P	03	20	80	100	2
7	15ECL77	VLSI Lab		1I+2P	03	20	80	100	2
8	15ECP78	Project Work Phase-I + Project work Seminar		03		100		100	2
TOTAL			18	09	21	240	560	800	24

Professional Elective-3		Professional Elective-4	
15EC741	Multimedia Communication	15EC751	DSP Algorithms and Architecture
15EC742	Biomedical Signal Processing	15EC752	IoT and Wireless Sensor Networks
15EC743	Real Time Systems	15EC753	Pattern Recognition
15EC744	Cryptography	15EC754	Advanced Computer Architecture
15EC745	CAD for VLSI	15EC755	Satellite Communication

1. **Project Phase -I + Project Work Seminar:** Literature Survey, Problem Identification, Objectives and Methodology. Submission of Synopsis and Seminar.

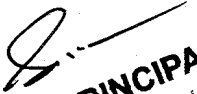

PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
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B.E.: Electronics & Communication Engineering

VII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EC71	Microwave and Antennas	EC	04		03	60	40	100	4
2	17EC72	Digital Image Processing	EC	04		03	60	40	100	4
3	17EC73	Power Electronics	EC	04		03	60	40	100	4
4	17EC74X	Professional Elective-3	EC	03		03	60	40	100	3
5	17EC75X	Professional Elective-4	EC	03		03	60	40	100	3
6	17ECL76	Advanced Communication Lab	EC	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17ECL77	VLSI Lab	EC	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17ECP78	Project Work Phase-I + Project work Seminar	EC		03			100	100	2
TOTAL				Theory:18 hours Practical and Project: 09 hours		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17EC741	Multimedia Communication	17EC751	DSP Algorithms and Architecture
17EC742	Biomedical Signal Processing	17EC752	IOT and Wireless Sensor Networks
17EC743	Real Time Systems	17EC753	Pattern Recognition
17EC744	Cryptography	17EC754	Advanced Computer Architecture
17EC745	CAD for VLSI	17EC755	Satellite Communication


PRINCIPAL
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 Ooragaum, K.G.F. - 563 120.

1. **Project Phase – I and Project Seminar:** Comprises of Literature Survey, Problem identification, Objectives and Methodology. CIE marks shall be based on the report covering Literature Survey, Problem identification, Objectives and Methodology and Seminar presentation skill.


B.E.: Electronics & Communication Engineering

VIII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EC81	Wireless Cellular and LTE 4G Broadband	EC	4	-	3	60	40	100	4
2	17EC82	Fiber Optics & Networks	EC	4	-	3	60	40	100	4
3	17EC83X	Professional Elective-5	EC	3	-	3	60	40	100	3
4	17EC84	Internship/Professional Practice	EC	Industry Oriented		3	50	50	100	2
5	17ECP85	Project Work	EC		6	3	100	100	200	6
6	17ECS86	Seminar	EC		4			100	100	1
TOTAL				Theory: 11 hours Project and Seminar: 10 hours		15	330	370	700	20

Professional Elective -5	
17EC831	Micro Electro Mechanical Systems
17EC832	Speech Processing
17EC833	Radar Engineering
17EC834	Machine learning
17EC835	Network and Cyber Security

1. **Internship/ Professional Practice:** 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period.


PRINCIPAL
 S. T. Thimmaiah Institute of Technology
 Oorgaam, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 - 19
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 - 19)

Programme: B.E: Electronics & Communication Engineering

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits		
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks	
1	PCC	18EC61	Digital Communication		L	T	P						
2	PCC	18EC62	Embedded Systems		3	2	--	03	40	60	100	4	
3	PCC	18EC63	Microwave and Antennas		3	2	--	03	40	60	100	4	
4	PEC	18XX64X	Professional Elective -I		3	2	--	03	40	60	100	4	
5	OEC	18XX65X	Open Elective -A		3	--	--	03	40	60	100	4	
6	PCC	18ECL66	Embedded Systems Laboratory		3	--	--	03	40	60	100	3	
7	PCC	18ECL67	Communication Laboratory		--	2	2	03	40	60	100	2	
8	MP	18ECMP68	Mini-project		--	2	2	03	40	60	100	2	
9	Internship	--	Internship		--	--	2	03	40	60	100	2	
To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.					TOTAL	15	10	6	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Course code under 18XX64X	Course Title	Professional Elective -I
18EC641	Operating System	
18EC642	Artificial Neural Networks	
18EC643	Data Structures using C++	
18EC644	Digital System Design Using Verilog	
18EC645	Nanoelectronics	
18EC646	Python Application Programming	

Open Elective -A

(i) 18EC651 Signal Processing (ii) 18EC652 Sensors & Signal Conditioning

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if;

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini-project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the Mini-project work shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college. The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

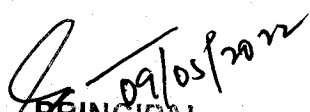
SEE for Mini-project:

(i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.


PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Oorgaum, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 - 19
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 - 19)

Programme: B.E: Electronics & Communication Engineering

VII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18EC71	Computer Networks		3	--	--	03	40	60	100	3
2	PCC	18EC72	VLSI Design		3	--	--	03	40	60	100	3
3	PEC	18XX73X	Professional Elective - 2		3	--	--	03	40	60	100	3
4	PEC	18XX74X	Professional Elective - 3		3	--	--	03	40	60	100	3
5	OEC	18XX75X	Open Elective -B		3	--	--	03	40	60	100	3
6	PCC	18ECL76	Computer Networks Lab		--	2	2	03	40	60	100	2
7	PCC	18ECL77	VLSI Laboratory		--	2	2	03	40	60	100	2
8	Project	18ECP78	Project Work Phase - 1		--	--	2	--	100	--	100	1
9	Internship	--	Internship		(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)							
TOTAL					15	04	06	21	38	420	800	20

Note: PCC: Professional core, PEC: Professional Elective.

Professional Elective - 2

Course code under 18XX73X	Course Title
18EC731	Real Time Systems
18EC732	Satellite Communication
18EC733	Digital Image Processing
18EC734	DSP Algorithms & Architecture

Professional Elective - 3

Course code under 18XX74X	Course Title
18EC741	IoT & Wireless Sensor Networks
18EC742	Automotive Electronics
18EC743	Multimedia Communication
18EC744	Cryptography
18EC745	Machine Learning with Python

Open Elective -B

(i) 18EC751 Communication Theory (ii) 18EC752 Neural Networks

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X). Selection of an open elective shall not be allowed if,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

CIE procedure for Project Work Phase - 1:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of the project work phase -1 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the Project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

[Signature]
PRINCIPAL

Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
 Scheme of Teaching and Examination 2018 - 19
 Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
 (Effective from the academic year 2018 - 19)

Programme: B.E: Electronics & Communication Engineering

VIII SEMESTER

Sl. No	Course and Course code	Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
				Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
				L	T	P					
1	PCC 18EC81	Wireless and Cellular Communication		3	--	--	03	40	60	100	3
2	PEC 18XX82X	Professional Elective - 4		3	--	--	03	40	60	100	3
3	Project 18ECP83	Project Work Phase - 2		--	--	2	03	40	60	100	8
4	Seminar 18ECS84	Technical Seminar		--	--	2	03	100	--	100	1
5	Internship 18EC185	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL				06	--	04	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Elective - 4

Course code under 18XX82X	Course Title
18EC821	Network Security
18EC822	Micro Electro Mechanical Systems
18EC823	Radar Engineering
18EC824	Optical Communication Networks
18EC825	Biomedical Signal Processing

Project Work

CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: Those, who have not pursued /completed the internship, shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).

09/05/2022
 PRINCIPAL

Dr. T. Thimmaiah Institute of Technology
 Oorappam, K.G.F - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAVI
CREDIT BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING & EXAMINATION
B.E.MINING ENGINEERING

VII SEMESTER

Sl. No.	Sub Code	Subject Title	Teaching Dept.	Hrs/week		Examination				Credits
				Theory	Pract.	Duration (Hrs)	IA Max. Marks	Theory/ Pract.	Total Marks	
1	15MN71	Underground Mine Planning & Design	MN	04	-	03	20	80	100	4
2	15MN72	Ground Control	MN	04	-	03	20	80	100	4
3	15MN73	Computer Application in Mining	MN	04	-	03	20	80	100	4
4	15MN74X	Professional Elective -III	MN	03	-	03	20	80	100	3
5	15MN75X	Professional Elective -IV	MN/ME	03	-	03	20	80	100	3
6	15MNL76	Mineral Processing Lab	MN	-	1I+2P	03	20	80	100	2
7	15MNL77	Computer Application in Mining Lab	MN	-	1I+2P	03	20	80	100	2
8	15MNP78	Project Phase-I + Project Seminar	MN	3	3		100		100	2
Total				18	09	21	240	560	800	24

Professional Elective –III			Professional Elective -IV		
Sl. No.	Subject Code	Subject Title	Sl. No.	Subject Code	Subject Title
1	15MN741	Open Pit Slope Analysis and Design	1	15MN751	Mine System Engineering
2	15MN742	Occupational Health & General Safety	2	15MN752	Numerical Modeling and Instrumentation in Rock Mechanics
3	15MN743	Surface Mine Planning and Design	3	15MN753	Small Scale and Marine Mining

1. Project Phase-I + Seminar: Literature Survey, Problem Identification, Objectives and Methodology, Submission of Synopsis and Seminar.

PRINCIPAL
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 Ooragam, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAVI
CREDIT BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING & EXAMINATION
B.E.MINING ENGINEERING

VIII SEMESTER

Sl. No.	Sub Code	Subject Title	Hrs/week		Examination				Credits
			Theory	Pract.	Duration (Hrs)	IA Max. Marks	Theory/ Pract.	Total Marks	
1	15MN81	Mine Legislation	04	-	03	20	80	100	4
2	15MN82	Mine Management	04	-	03	20	80	100	4
3	15MN83X	Professional Elective-V	03	-	03	20	80	100	3
4	15MN84	Internship/Professional Practice	Industry Oriented		03	50	50	100	2
5	15MNP85	Project Work, Phase-II	-	06	03	100	100	200	6
6	15MNS86	Seminar on current trends in Engineering and Technology	-	04	-	100	-	100	1
TOTAL			11	10	15	310	390	700	20

Professional Elective-V		
Sl. No.	Subject Code	Subject Title
1	15MN831	Environmental Impacts of Mining
2	15MN832	Dimensional Stone Mining
3	15MN833	Coal Bed Methane
4	15MN834	Mining Geo-statistics


 Dr. I. Inimmaiah Institute of Technology
 Oorgaam, K.G.F. - 563 120.

***Internship/ Professional Practice:** Students should undergo the following during the vacation (4th to 7th Semester) and detailed REPORT should be submitted in 8th Semester for Internal Assessment).

1. One Week Geology camp (after 4th sem) and Survey camp (after 5th sem).
2. Industrial Visits (Two Underground & Two Opencast Mines) or 15 Days Underground and 15 days Opencast Mines training or 15 Days in-Campus Technical Skill Development Certified Course.


B.E. Mining Engineering

VII SEMESTER

Sl. No	Subject Code	Course	Title	Teaching Dept.	Teaching Hours /Week			Examination				Credits
					Lecture	Tutorial	Practical / Drawing	Duration (Hours)	SEE Marks	CIE Marks	Total Marks	
1	17MN71	Core course	Underground Mine Planning & Design	MN	4	0	0	03	60	40	100	4
2	17MN72	Core course	Ground Control	MN	4	0	0	03	60	40	100	4
3	17MN73	Core course	Mineral Processing & Fuel Technology	MN	4	0	0	03	60	40	100	4
4	17MN74X	Professional Elective-III	Professional Elective -III	MN	3	0	0	03	60	40	100	3
5	17MN75X	Professional Elective-IV	Professional Elective -IV	MN	3	0	0	03	60	40	100	3
6	17MNL76	Laboratory	Mineral Processing Lab	MN	0	0	1I+2P	03	60	40	100	2
7	17MNL77	Laboratory	Computer Application in Mining Lab	MN	0	0	1I+2P	03	60	40	100	2
8	17MNP78	Core course	Project Phase-I + Project Seminar	MN	0	0	3			100	100	2
TOTAL					18	00	09	21	420	380	800	24

Professional Elective-III		Professional Elective-IV	
17MN741	Open Pit Slope Analysis and Design	17MN751	Mine System Engineering
17MN742	Occupational Health & General Safety	17MN752	Numerical Modeling and Instrumentation in Rock Mechanics
17MN743	Surface Mine Planning and Design	17MN753	Small Scale and Marine Mining

- 1. Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. Open Elective:** Electives from other technical and/or emerging subject areas.


PRINCIPAL
 Dr. T. Thirumalaiah Institute of Technology
 Dargam, K.G.F. - 563 120

B.E. Mining Engineering

VIII SEMESTER

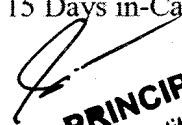
Sl. No	Subject Code	Course	Title	Teaching Dept.	Teaching Hours /Week			Examination			Credits		
					Lecture	Tutorial	Practical / Drawing	Duration (Hours)	SEE Marks	CIE Marks		Total Marks	
1	17MN81	Core course	Mine Legislation	MN	4	0	0	03	60	40	100	4	
2	17MN82	Core course	Computer Application in Mining	MN	4	0	0	03	60	40	100	4	
3	17MN83X	Professional Elective-V	Professional Elective-V	MN	3	0	0	03	60	40	100	3	
4	17MN84	Core course	Internship/Professional Practice		Industry Oriented			03	50	50	100	2	
5	17MNP85	Core course	Project Work Phase -II	MN	0	0	6	03	100	100	200	6	
6	17MNS86	Core course	Seminar on current trends in Engineering and Technology	MN	0	0	4			100	100	1	
TOTAL						11	00	10	15	330	370	700	20

Professional Elective-V	
17MN831	Mining Geo-statistics
17MN832	Dimensional Stone Mining
17MN833	Coal Bed Methane
17MN834	Environmental Impacts Of Mining

Note:

Internship/ Professional Practice: Students should undergo the following during the vacations (4th to 7th Semester) and detailed REPORT should be submitted in 8th Semester for Internal Assessment).

1. One Week Geology (after 4th sem) and Survey (after 5th sem) Camps.
2. Industrial Visits (Two Underground & Two Opencast Mines) or 15 Days Underground and 15 days Opencast Mines training or 15 Days in-Campus Technical Skill Development Certified Course.


PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Oorgaam, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
B.E. in MINING ENGINEERING
 Scheme of Teaching and Examination 2018 – 19
 Choice Based Credit System (CBCS) and Outcome Based Education(OBE)
 (Effective from the academic year 2018 – 19)

VI SEMESTER													
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits		
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks	
					L	T	P						
1	PCC	18MN61	Ground Control	MN	3	2	--	03	40	60	100	4	
2	PCC	18MN62	Mine Environmental Engineering	MN	3	2	--	03	40	60	100	4	
3	PCC	18MN63	Mineral Processing and Fuel Technology	MN	3	2	--	03	40	60	100	4	
4	PEC	18MN64X	Professional Elective -1	MN	3	--	--	03	40	60	100	3	
5	OEC	18MN65X	Open Elective –A	MN	3	--	--	03	40	60	100	3	
6	PCC	18MNL66	Mine Ventilation and Environmental Engineering Laboratory	MN	--	2	2	03	40	60	100	2	
7	PCC	18MNL67	Mineral Processing Laboratory	MN	--	2	2	03	40	60	100	2	
8	MP	18MNMP68	Mini-project	MN	--	--	2	03	40	60	100	2	
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.									
TOTAL					15	10	06	24	320	480	800	24	

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective -1

Course code under 18MN64X	Course Title
18MN641	Underground Mine Planning and Design
18MN642	Surface Mine Planning and Design
18MN643	Environmental Management in Surface Mines

Open Elective -A

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini-project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Mini-project:

(i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Oorgaam, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
B.E. in MINING ENGINEERING
 Scheme of Teaching and Examination 2018 – 19
 Choice Based Credit System (CBCS) and Outcome Based Education(OBE)
 (Effective from the academic year 2018 – 19)

VII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18MN71	Mine System Engineering	MN	3	--	--	03	40	60	100	3
2	PCC	18MN72	Computer Application in Mining	MN	3	--	--	03	40	60	100	3
3	PEC	18MN73X	Professional Elective - 2	MN	3	--	--	03	40	60	100	3
4	PEC	18MN74X	Professional Elective - 3	MN	3	--	--	03	40	60	100	3
5	OEC	18MN75X	Open Elective -B	MN	3	--	--	03	40	60	100	3
6	PCC	18MNL76	Computer Application in Mining Laboratory	MN	--	2	2	03	40	60	100	2
7	PCC	18MNL77	Mine Optimization Laboratory	MN	--	2	2	03	40	60	100	2
8	Project	18MNP78	Project Work Phase - 1	MN	--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					15	04	06	18	340	360	700	20

Note: PCC: Professional core, PEC: Professional Elective.

Professional Elective - 2

Course code under 18MN73X	Course Title
18MN731	Open Pit Slope Analysis and Design
18MN732	Numerical Modelling and Instrumentation in Rock Mechanics

Professional Electives - 3

Course code under 18MN74X	Course Title
18MN741	Mineral Economics
18MN742	Occupational Health and General Safety

Open Elective -B

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).

Selection of an open elective shall not be allowed if,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

CIE procedure for Project Work Phase - 1:

(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work phase -1, shall be based on the evaluation of the project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the Project report shall be the same for all the batch mates.

(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Onraam, K.G.F. - 563 123.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
B.E. in MINING ENGINEERING
 Scheme of Teaching and Examination 2018 – 19
 Choice Based Credit System (CBCS) and Outcome Based Education(OBE)
 (Effective from the academic year 2018 – 19)

VIII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18MN81	Mine Legislation	MN	3	--	--	03	40	60	100	3
2	PEC	18MN82X	Professional Elective - 4	MN	3	--	--	03	40	60	100	3
3	Project	18MNP83	Project Work Phase - 2	MN	--	--	2	03	40	60	100	8
4	Seminar	18MNS84	Technical Seminar	MN	--	--	2	03	100	--	100	1
5	Internship	18MNI85	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	04	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18MN82X	Course Title
18MN821	Mine Geo-statistics
18MN822	Dimensional Stone Mining
18MN823	Coal Bed Methane

Project Work

CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: Those, who have not pursued /completed the internship shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card. Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).


PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Oorgaam, K.G.F. - 563 120.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016


B.E. Computer Science & Engineering

VII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination			Credits	
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks		Total Marks
1	15CS71	Web Technology and its applications	04	--	03	20	80	100	4
2	15CS72	Advanced Computer Architectures	04	--	03	20	80	100	4
3	15CS73	Machine Learning	04	--	03	20	80	100	4
4	15CS74x	Professional Elective 3	03	--	03	20	80	100	3
5	15CS75x	Professional Elective 4	03	--	03	20	80	100	3
6	15CSL76	Machine Learning Laboratory	--	1H+2P	03	20	80	100	2
7	15CSL77	Web Technology Laboratory with mini project	--	1H+2P	03	20	80	100	2
8	15CSP78	Project Phase 1 + Seminar	--	--	--	100	--	100	2
TOTAL			18	6	21	240	560	800	24

Professional Elective 3		Professional Elective 4	
15CS741	Natural Language Processing	15CS751	Soft and Evolutionary Computing
15CS742	Cloud Computing and its Applications	15CS752	Computer Vision and Robotics
15CS743	Information and Network Security	15CS753	Digital Image Processing
15CS744	Unix System Programming	15CS754	Storage Area Networks

1. Professional Elective: Electives relevant to chosen specialization / branch
2. Project Phase 1 + Seminar : Literature Survey, Problem Identification, Objectives and Methodology, Submission of Synopsis and Seminar


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. Computer Science & Engineering
 VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination			Credits	
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks		Total Marks
1	15CS81	Internet of Things and Applications	4	--	3	20	80	100	4
2	15CS82	Big Data Analytics	4	--	3	20	80	100	4
3	15CS83x	Professional Elective 5	3	--	3	20	80	100	3
4	15CS84	Internship / Professional Practice	Industry Oriented		3	50	50	100	2
5	15CSP85	Project work phase II	--	6	3	100	100	200	5
6	15CSS86	Seminar	--	4	--	100	--	100	2
TOTAL			11	10	15	310	390	700	20

Professional Elective 5	
15CS831	High Performance Computing
15CS832	User Interface Design
15CS833	Network management
15CS834	System Modeling and Simulation

1. Professional Elective: Electives relevant to chosen specialization / branch
2. Internship / Professional Practice: To be carried out between 6th and 7th semester vacation or 7th and 8th semester vacation period


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)

B.E: Computer Science and Engineering

VII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CS71	Web Technology and its applications	CS/IS	04		03	60	40	100	4
2	17CS72	Advanced Computer Architectures	CS/IS	04		03	60	40	100	4
3	17CS73	Machine Learning	CS/IS	04		03	60	40	100	4
4	17CS74x	Professional Elective 3	CS/IS	03		03	60	40	100	3
5	17CS75x	Professional Elective 4	CS/IS	03		03	60	40	100	3
6	17CSL76	Machine Learning Laboratory	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17CSL77	Web Technology Laboratory with mini project	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CSP78	Project Work Phase-I + Project work Seminar	CS/IS		03			100	100	2
TOTAL				Theory:18 hours Practical and Project: 09 hours		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17CS741	Natural Language Processing	17CS751	Soft and Evolutionary Computing
17CS742	Cloud Computing and its Applications	17CS752	Computer Vision and Robotics
17CS743	Information and Network Security	17CS753	Digital Image Processing
17CS744	Unix System Programming	17CS754	Storage Area Networks

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1. Project Phase – I and Project Seminar: Comprises of Literature Survey, Problem identification, Objectives and Methodology. CIE marks shall be based on the report covering Literature Survey, Problem identification, Objectives and Methodology and Seminar presentation skill.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)


B.E: Computer Science and Engineering

VIII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CS81	Internet of Things and Applications	CS/IS	4	-	3	60	40	100	4
2	17CS82	Big Data Analytics	CS/IS	4	-	3	60	40	100	4
3	17CS83X	Professional Elective-5	CS/IS	3	-	3	60	40	100	3
4	17CS84	Internship/ Professional Practice	CS/IS	Industry Oriented		3	50	50	100	2
5	17CSP85	Project Work-II	CS/IS	0	6	3	100	100	200	6
6	17CSS86	Seminar	CS/IS	0	4	0	0	100	100	1
TOTAL				Theory: 11 hours Project and Seminar: 10 hours		15	330	370	700	20

Professional Elective -5	
17CS831	High Performance Computing
17CS832	User Interface Design
17CS833	Network management
17CS834	System Modeling and Simulation

1. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period.


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

VI SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18CS61	System Software and Compilers	CS / IS	3	2	--	03	40	60	100	4
2	PCC	18CS62	Computer Graphics and Visualization	CS / IS	3	2	--	03	40	60	100	4
3	PCC	18CS63	Web Technology and its applications	CS / IS	3	2	--	03	40	60	100	4
4	PEC	18CS64X	Professional Elective -I	CS / IS	3	--	--	03	40	60	100	3
5	OEC	18CS65X	Open Elective –A	CS / IS	3	--	--	03	40	60	100	3
6	PCC	18CSL66	System Software Laboratory	CS / IS	--	2	2	03	40	60	100	2
7	PCC	18CSL67	Computer Graphics Laboratory with mini project	CS / IS	--	2	2	03	40	60	100	2
8	MP	18CSMP68	Mobile Application Development	CS / IS	--	--	2	03	40	60	100	2
9	INT	--	Internship	(To be carried out during the intervening vacations of VI and VII semesters)				--	--	--	--	--
TOTAL					15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project, INT: Internship.

Professional Elective -1

Course code under 18XX64X	Course Title
18CS641	Data Mining and Data Warehousing
18CS642	Object Oriented Modelling and Design
18CS643	Cloud Computing and its Applications
18CS644	Advanced JAVA and J2EE
18CS645	System Modelling and Simulation

Open Elective –A (Not for CSE / ISE Programs)

18CS651	Mobile Application Development
18CS652	Introduction to Data Structures and Algorithms
18CS653	Programming in JAVA
18CS654	Introduction to Operating System

Students can select any one of the open electives offered by any Department (Please refer to the list of open electives under 18CS65X).

Selection of an open elective is not allowed provided,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Adviser/Mentor.

Mini-project work: Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini- project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college. The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.


SEE for Mini-project:

(i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not takeup/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

VII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18CS71	Artificial Intelligence and Machine Learning	CS / IS	4	--	--	03	40	60	100	4
2	PCC	18CS72	Big Data Analytics	CS / IS	4	--	--	03	40	60	100	4
3	PEC	18CS73X	Professional Elective – 2	CS / IS	3	--	--	03	40	60	100	3
4	PEC	18CS74X	Professional Elective – 3	CS / IS	3	--	--	03	40	60	100	3
5	OEC	18CS75X	Open Elective –B	CS / IS	3	--	--	03	40	60	100	3
6	PCC	18CSL76	Artificial Intelligence and Machine Learning Laboratory	CS / IS	--	--	2	03	40	60	100	2
7	Project	18CSP77	Project Work Phase –I	CS / IS	--	--	2	--	100	--	100	1
8	INT	--	Internship	(If not completed during the vacation of VI and VII semesters, it has to be carried out during the intervening vacations of VII and VIII semesters)								
TOTAL					17	--	04	18	340	360	700	20

Note: PCC: Professional core, PEC: Professional Elective, OEC: Open Elective, INT: Internship.

Professional Elective - 2

Course code under 18CS73X	Course Title
18CS731	Software Architecture and Design Patterns
18CS732	High Performance Computing
18CS733	Advanced Computer Architecture
18CS734	User Interface Design

Professional Electives – 3

Course code under 18CS74X	Course Title
18CS741	Digital Image Processing
18CS742	Network management
18CS743	Natural Language Processing
18CS744	Cryptography
18CS745	Robotic Process Automation Design & Development

Open Elective –B (Not for CSE / ISE Programs)

18CS751	Introduction to Big Data Analytics
18CS752	Python Application Programming
18CS753	Introduction to Artificial Intelligence
18CS754	Introduction to Dot Net framework for Application Development

Students can select any one of the open electives offered by any Department (Please refer to the list of open electives under 18CS75X). Selection of an open elective is not allowed provided.

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Adviser/Mentor.

Project work: Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

CIE procedure for Project Work Phase - 1:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the project work phase -I, shall be based on the evaluation of the project work phase -I Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the Project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -I, shall be based on the evaluation of project work phase -I Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

Internship: All the students admitted to III year of BE/B.Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not takeup/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

VIII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18CS81	Internet of Things	CS / IS	3	--	--	03	40	60	100	3
2	PEC	18CS82X	Professional Elective – 4	CS / IS	3	--	--	03	40	60	100	3
3	Project	18CSP83	Project Work Phase – 2	CS / IS	--	--	2	03	40	60	100	3
4	Seminar	18CSS84	Technical Seminar	CS / IS	--	--	2	03	100	--	100	1
5	INT	18CSI85	Internship	(Completed during the intervening vacations of VI and VII semesters and /or VII and VIII semesters.)			03	40	60	100	3	
TOTAL					06	--	04	15	260	240	500	18
Note: PCC: Professional Core, PEC: Professional Elective, OEC: Open Elective, INT: Internship.												
Professional Electives – 4												
Course code under 18CS82X		Course Title										
18CS821		Mobile Computing										
18CS822		Storage Area Networks										
18CS823		NoSQL Database										
18CS824		Multicore Architecture and Programming										
Project Work CIE procedure for Project Work Phase - 2:												
(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.												
(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.												
SEE for Project Work Phase - 2:												
(i) Single discipline: Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.												
(ii) Interdisciplinary: Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.												
Internship: Those, who have not pursued /completed the internship shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements												
AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card. Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).												



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